WebAlert® WA500 Series
Process Monitor Instruction Manual

Five Boynton Road Hopping Brook Park Holliston, MA 01746 USA
TEL: 508-429-1110 FAX: 508-429-7433 WEB: www.walchem.com

Notice

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1.0 INTRODUCTION

WebAlert is the first stand- alone remote monitoring device that can web enable your installed equipment without having to replace or upgrade it. Your key system parameters (analog and digital input signals) can now be monitored from any computer – anywhere in the world - with a standard web browser.

With proprietary on-demand connectivity, the WebAlert is only online when you need it, making it the world's first practical and secure industrial monitoring Internet solution. WebAlert pulls your older equipment into the Internet age with online monitoring, data logging, auto reporting and auto alarming. User defined alarms can be received by email or cell phone text message. The solid state alarm relay notifies on-site personnel.

Data logs can be delivered by email as a spreadsheet attachment. You decide where and when you need the information and WebAlert makes it happen. Since WebAlert supports simultaneous multi-user access and Ethernet, all of its remote monitoring features are also available on local area networks (LAN). For larger installations, which require more than six analog and two digital inputs, WebAlerts can be networked together with Ethernet.

In addition, settings and data may be manipulated using a computer connected directly via USB, or modem to modem without requiring an Internet connection.

2.0 SPECIFICATIONS

2.1 Measurement Performance

4-20 mA Inputs

Range	3.75-20.25 mA
Resolution	0.03 mA
Calibration	± 1 mA

2.2 Electrical

Inputs

Input power	100 – 120/220-240 VAC ±10%, 1A, 50/60 Hz	**Fuse**	1.0A, 5 x 20mm

Input signals	
State-Type Digital Inputs	Electrical: Non-Isolated 5 VDC with 301 K ohm pull-up
	Typical response time: < 10 seconds
	Devices supported: Any isolated dry contact (i.e. relay, reed switch)
	Support on inputs: 1 through 6
	Types: Generic input
Low Speed Counter-Type Digital Inputs	Electrical: Non-Isolated 5 VDC with 301 K ohm pull-up, 0-10 Hz, 50 msec minimum width
	Devices supported: Any device with isolated open drain, open collector, transistor or reed switch
	Support on inputs: 1 through 4
	Types: Contacting flowmeter, Generic counter
High Speed Counter-Type Digital Inputs	Electrical: Non-Isolated 5 VDC with 301 K ohm pull-up, 0-400 Hz, 1.25 msec minimum width
	Devices supported: Any device with isolated open drain, open collector, transistor or reed switch
	Support on inputs: 1 through 4
	Types: Paddlewheel flowmeter, Generic counter
Analog Inputs (1-6)	4-20 mA, 2-wire or 3 -wire, internally powered by 24 VDC, 110 ohm input resistance, 1000 ohm maximum load , Typical response time < 10 seconds

Outputs

Solid State Relay:	Dry Contact, 0 to 40 VDC, NO AC VOLTAGE, 150 mA maximum load
Digital:	USB Ethernet, 10 Base T

Agency Approvals

Safety	UL 61010-1:2012 3rd Ed.
	CSA C22.2 No. 61010-1:2012 3rd Ed.
	IEC 61010-1:2010 3rd Ed.
	EN 61010-1:2010 3rd Ed.
EMC	IEC 61326-1:2005
	EN 61326-1:2006

Note: For EN61000-4-6, EN61000-4-3 the controller met performance criteria B.
*Class A equipment: Equipment suitable for use in establishments other than domestic, and those directly connected to a low voltage (100-240 VAC) power supply network which supplies buildings used for domestic purposes.

2.3 Mechanical

Enclosure

Material:	Polycarbonate
NEMA Rating:	NEMA 4X (IP 66)
Dimensions:	32.4 cm x 24.4 cm x 8.3 cm (12.75” x 9.60” x 3.25”)
Operating Ambient Temp:	0 to 60° C (32 to140°F)
Storage Temp:	-29 to 80°C (-20 to 176 °F)
Weight	2.0 kg. (4.5 lbs)

2.4 Variables and their Limits

All menus shown may not be available. The menus that appear on your process monitor will vary with options installed and programmed.

Generic 4-20 mA Input Menu

4 mA =	-999,999,999 to 999,999,999 (units of measure defined by user)
20 mA =	-999,999,999 to 999,999,999 (units of measure defined by user)
Low Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
High Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
Low-Low Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
High-High Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)

Level (4-20 mA) Input Menu

mA when Tank Empty	0 to 20 mA
mA when Tank Full	0 to 20 mA
Full Tank Volume	0 to 999,999,999 (units defined by user)
Low Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
High Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
Low-Low Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
High-High Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)

Flow Meter 4-20 mA Input Menu

4 mA =	0 to 999,999,999 (units of flow rate defined by user)
20 mA =	0 to 999,999,999 (units of flow rate defined by user)
Low Alarm Limit	0 to 999,999,999 (units of flow rate defined by user)
High Alarm Limit	0 to 999,999,999 (units of flow rate defined by user)
Low-Low Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
High-High Alarm Limit	-999,999,999 to 999,999,999 (units of measure defined by user)
Total Limit	0 to 999,999,999 (units of total volume defined by user)

Digital Input Menu

Paddlewheel Flowmeter Input Menu

K Factor (paddlewheel style)	0.001 to 20,000 (Pulses per Gallon or Liter)
Total Alarm Limit	0 = no limit, otherwise >0
Rate High Alarm	>0
Rate Low Alarm	>0
Rate High-High Alarm	>0
Rate Low-Low Alarm	>0

Contact Flowmeter Input Menu

Volume per Contact (contact style)	0 to 1000 (units of measure defined by user)
Total Alarm Limit	0 = no limit, otherwise >0

Counter Input Menu

One Count =	>0
Total Alarm Limit	0 =no limit, otherwise >0
Rate High Alarm	>0
Rate Low Alarm	>0
Rate High-High Alarm	>0
Rate Low-Low Alarm	>0

Alarm Output Menu

Remote Alarm Delay Time	1 to 1440 minutes
Output Time Limit	0 to 1440 minutes (0 = no limit)
Alarm Hand Time Limit	1 to 1440 minutes

Auto Reporting Menu

Logging Frequency	10 to 1440 minutes

Access Code Menu

Session Timeout	0 to 60 minutes (0 = infinity)

3.0 UNPACKING & INSTALLATION

3.1 Unpacking the Unit

Inspect the contents of the carton. Please notify the carrier immediately if there are any signs of damage to the process monitor or its parts. Contact your distributor if any of the parts are missing. The carton should contain a WebAlert series process monitor and instruction manual. Any options or accessories will be incorporated as ordered.

3.2 Mounting the Electronic Enclosure

The WebAlert series process monitor is supplied with mounting holes on the enclosure. It should be wall mounted with the display at eye level on a vibration-free surface, utilizing all mounting holes for maximum stability.

The enclosure is IP66 (NEMA 4X) rated, suitable for outdoor installation. The maximum ambient operating temperature is 60 degrees C (140 degrees F); this should be considered if installation is in a high temperature location.

The installation site should be in close proximity to grounded AC power, the devices to be connected, and phone line or Ethernet hub (if applicable).

Avoid locations that are in close proximity to sources of electrical noise (motor starters, power transformers, variable speed motor drives, radio transmitters, etc.), corrosive fumes or excessive moisture.

The enclosure requires the following clearances:

Top:	5 cm (2”)
Left:	10 cm (4”)
Right:	10 cm (4”)
Bottom:	10 cm (4”)

3.3 Installation

The WebAlert receives digital and analog input signals, and sends a digital output signal. The maximum distances for these cables, using 24 AWG shielded twisted pair cable, is 1200 meters (4000 feet) for the 4-20 mA input signals and 300 meters (1000 feet) for the digital input and output signals. It is highly recommended that these cables be routed separately from any AC voltage wires, and that the cable shield drain wire is connected to earth ground at the process monitor end only.

Note: Using the WebAlert process monitor in any manner other than that specified in this manual could compromise the safety of persons or property.

3.4 Icon Definitions

Symbol	Publication	Description
	IEC 417, No.5019	Protective Conductor Terminal
	IEC 417, No. 5007	On (Supply)
	IEC 417, No. 5008	Off (Supply)
	ISO 3864, No. B.3.6	Caution, risk of electric shock
	ISO 3864, No. B.3.1	Caution

3.5 Electrical Installation

The WebAlert series process monitors require the following voltages:
100 –120/200-240 VAC ± 10%, 50/60 Hz, 1.0 amperes maximum.

Your unit is supplied ready to be hardwired. In addition, you will be required to hardwire some or all of the input/output devices. Please refer to Figures 2 through 5 for wiring diagrams.

Note: Proper grounding of this product is required. Any attempt to bypass the grounding will compromise the safety of persons and property.

CAUTION! There are live circuits beneath the power supply cover! The process monitor must not be operated without this cover properly installed!

CAUTION! The electrical installation of the process monitor must be done by trained personnel only and conform to all applicable National and Local codes!

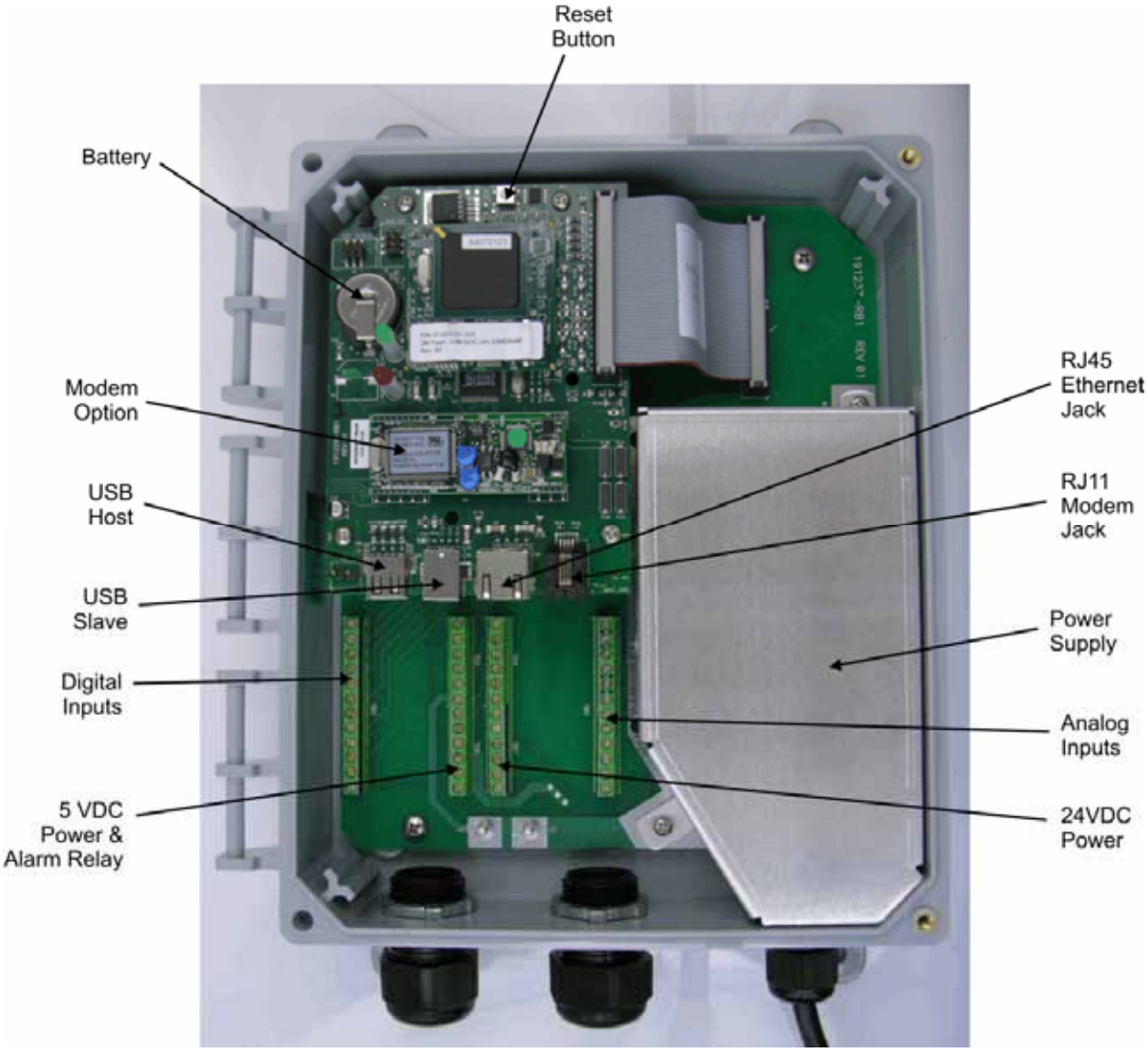


Figure 1 Identification of Parts

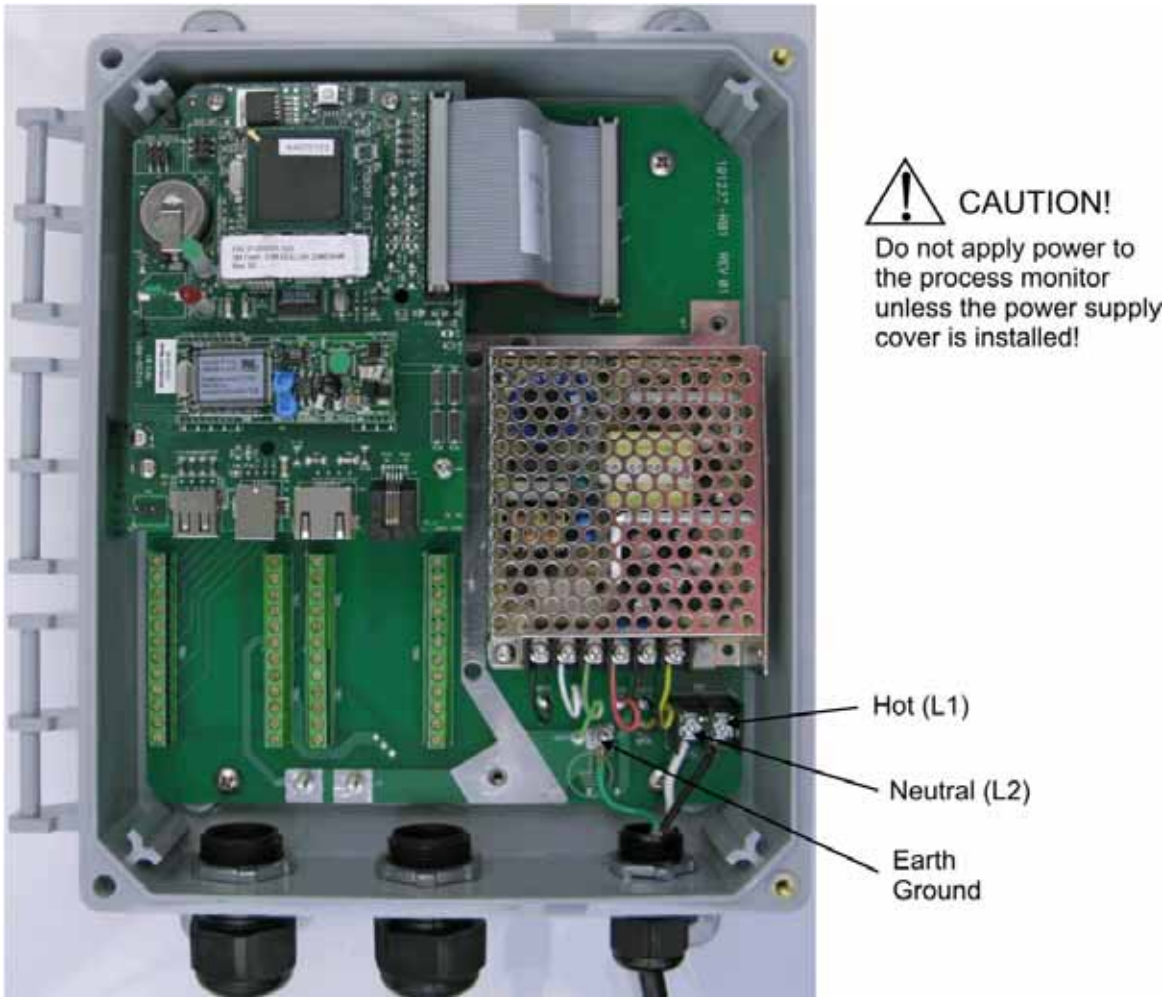

CAUTION!
Do not apply power to the process monitor unless the power supply cover is installed!
Hot (L1)
Neutral (L2)
Earth Ground

Figure 2 – Wiring Diagram for AC Power Input

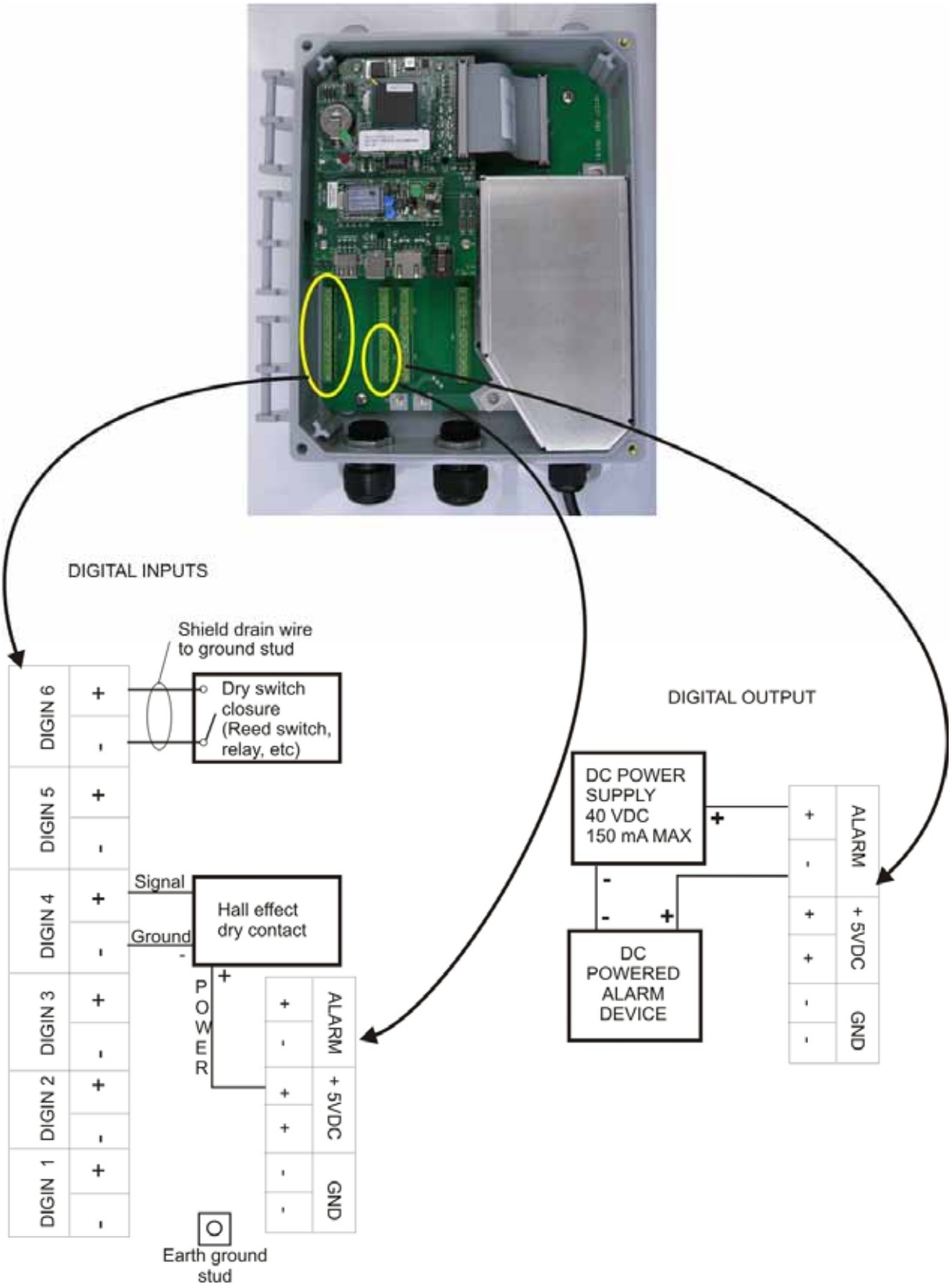


Figure 3 - Wiring Diagram for Digital Inputs and Outputs

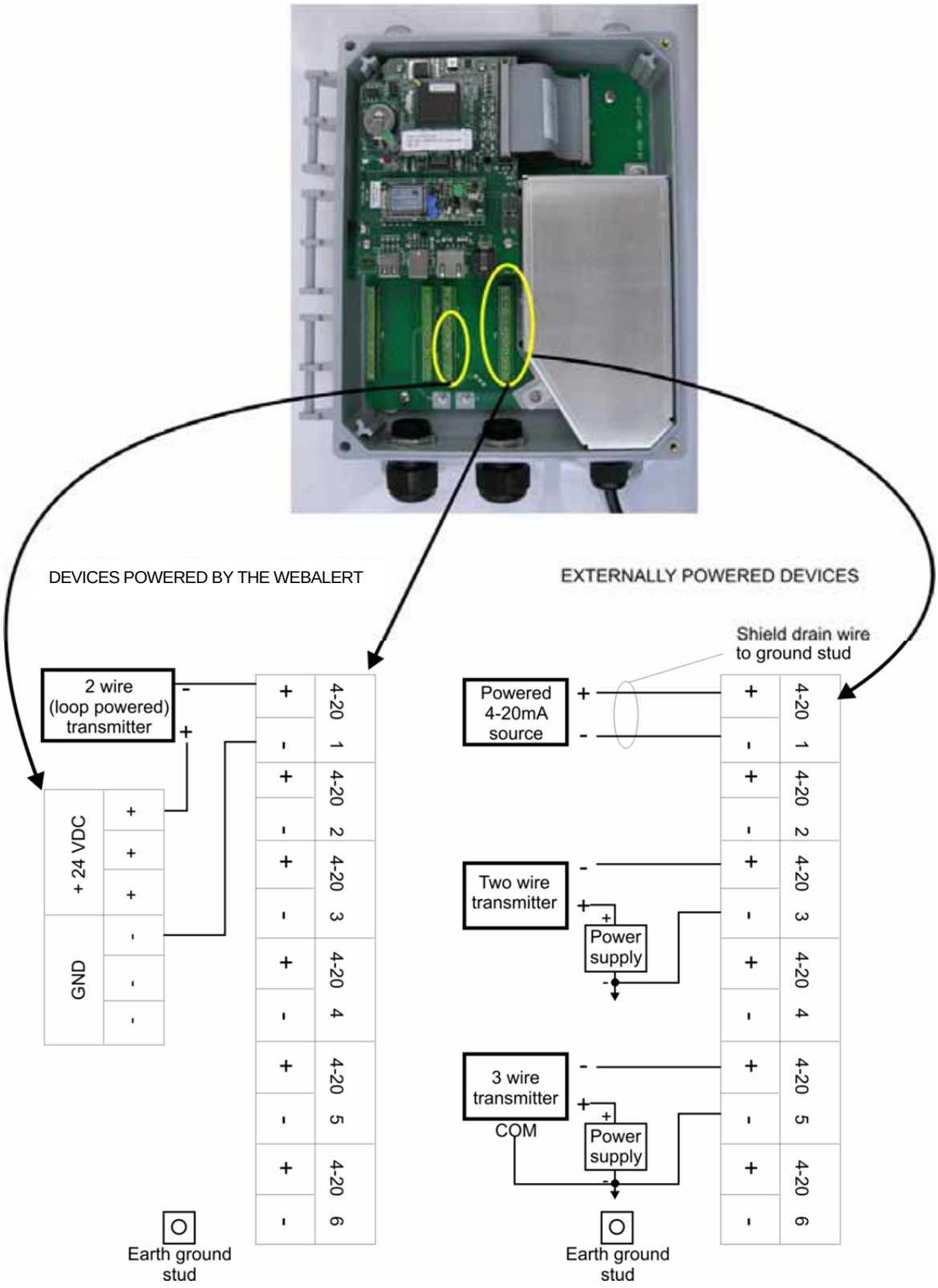


Figure 4 - Wiring Diagram for Analog Inputs

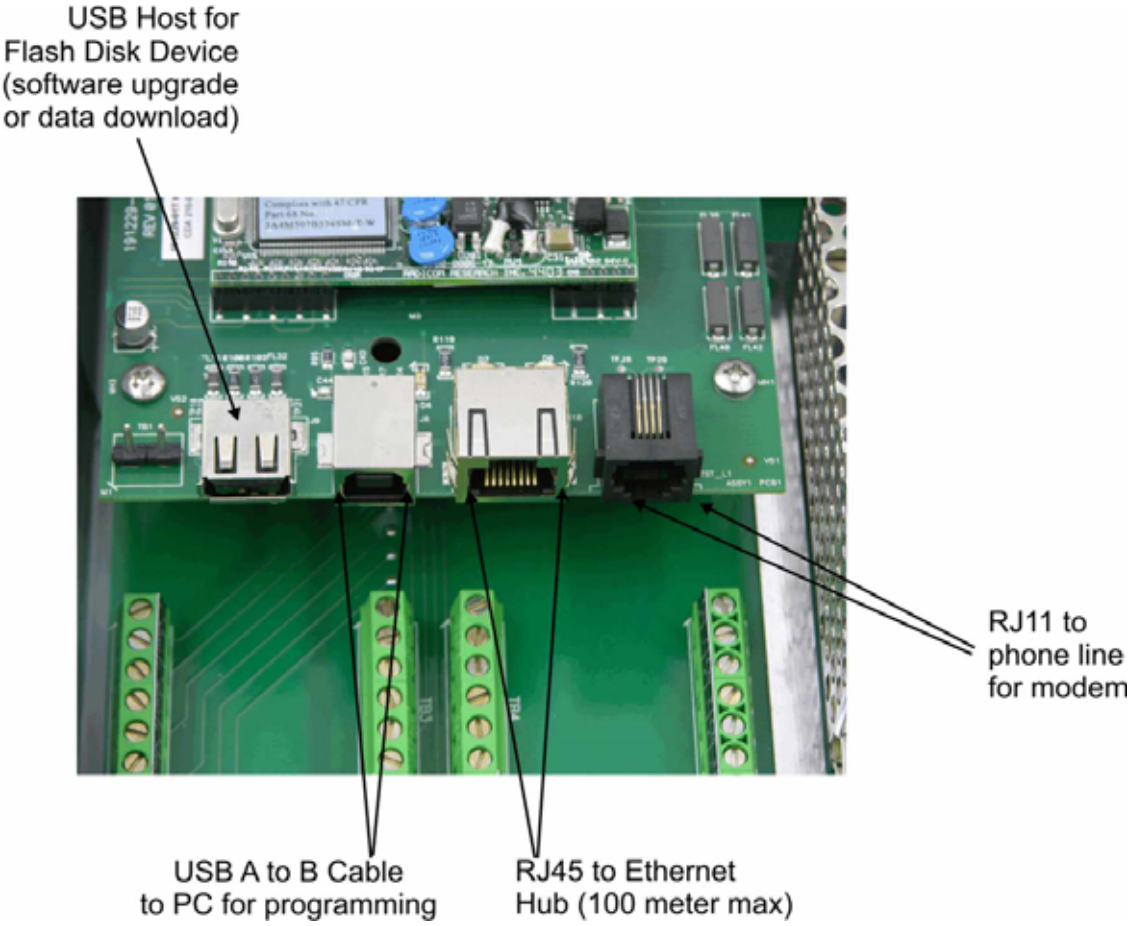
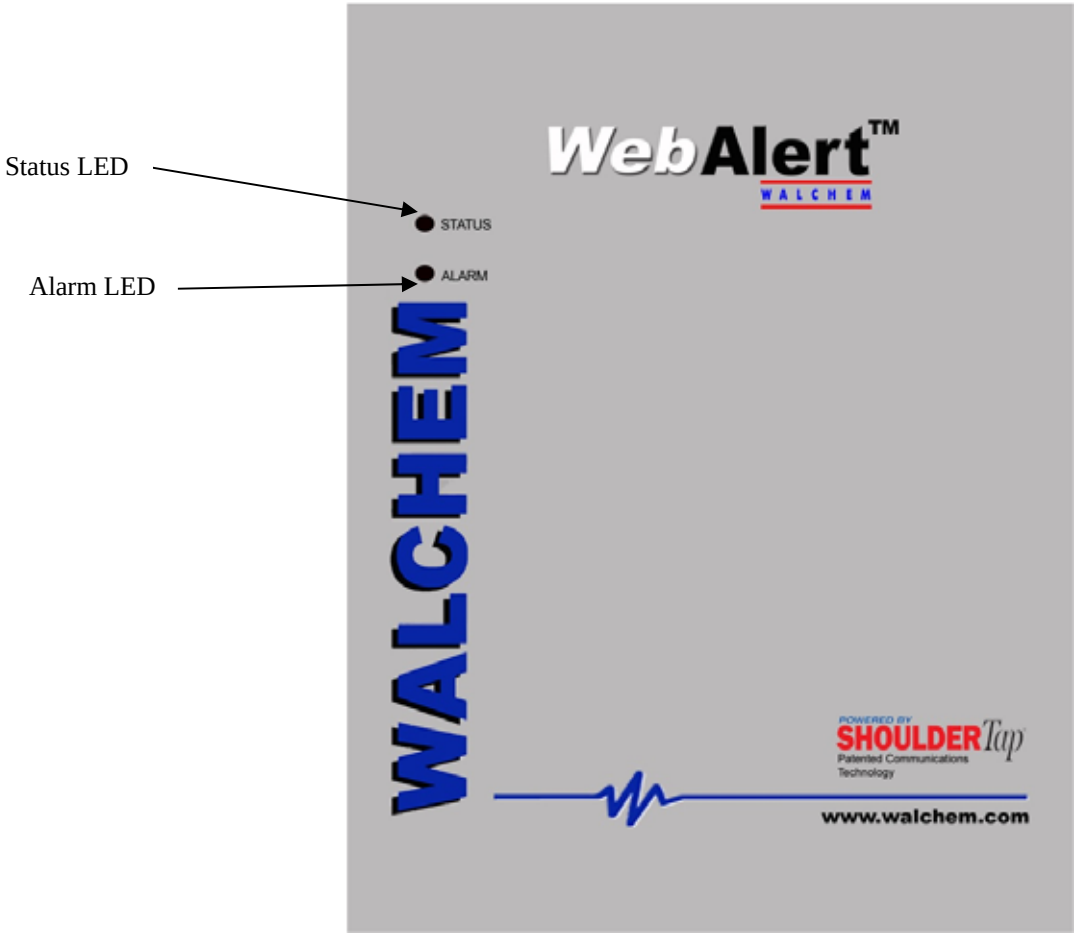


Figure 5 – Wiring Diagram for USB Devices and Communications

4.0 FUNCTION OVERVIEW

4.1 Front Panel



4.2 Initial Startup

Turn the power on. Be patient, the start up sequence will take about the same time as it takes a computer to boot up, approximately 2 minutes. The Status LED will flash, and when boot up is complete the WebAlert will beep 3 times. Under normal conditions, the Status LED will flash on and off every second.

The WebAlert Series process monitors have a wide range of capabilities, so the steps required preparing the site for installation would be different depending upon the capability you will be using.

If you want to program the WebAlert using a laptop computer to connect to the serial port on the front panel of the unit, go to the section below called “Direct Connection to the USB Port”.

If you have a unit that is equipped with a modem, then you can take full advantage of the WebAlert. The unit is like a web server. Once you set up an Internet Service Provider (ISP) account for the unit, you can “surf” to it from any web connected computer to access data or reconfigure the settings. The unit can also contact you, by email or cell phone text message, in case of trouble. In this case, a dedicated analog phone line that does not go through a company switchboard for the process monitor must be provided. For details, go to the section below called “Remote Modem Access: Shoulder Tap.” The ISP information must be entered into the WebAlert via direct connection to the USB port, via Ethernet or via the Direct Modem method before attempting a Shoulder Tap connection.

If you have not yet set up an ISP account and wish to program the WebAlert from a remote location, or if you just prefer the “old fashioned method” of direct modem-to-modem communication, go to the section below called “Direct Modem Access: Direct Tap.”

If you can use the Ethernet connection installed, then the WebAlert becomes like another device on a network. You can use your web browser software, enter the unit’s address (assigned by your network administrator) and access data or reconfigure the unit. You will need to have a network node nearby (within 100 meters/330 feet) to connect your WebAlert process monitor. See the section below called “Ethernet Connection to LAN”.

You may also use the Ethernet card in your laptop to communicate with the Ethernet connection in the WebAlert. This requires a special null cable and the laptop network settings must be configured to work with the WebAlert. Refer to the section below called “Direct Ethernet (for a WebAlert not connected to the LAN).”

Uploading Configuration Files

You can save all of the set points from a previously programmed unit, and then import the same set points into another unit. If you have already exported a configuration file from a previously programmed unit, you can import that file to this unit in order to make all the set points the same. If you want to save the set points of this unit for use in future units, or want to program this unit using a stored configuration file, refer to section 5.14 for specific instructions.

See the appropriate section above, depending upon how you plan on exporting the configuration file; via a laptop connected to the front panel, via modem, or via Ethernet connection.

4.3 Communicating with the WebAlert

4.3.1 Direct Connection to the USB Port

A direct USB connection to the WebAlert can be made in two ways. A temporary connection or a permanent connection can be made between a PC and the USB connector inside the unit. The cable length is limited to 5 meters (15 feet).

Equipment Required

- An A to B USB cable.
- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows 2000 or newer operating system, and Windows Internet Explorer version 5.0 or higher web browser software.

Features Required in the WebAlert

- Any WebAlert process monitor is capable of an USB connection.

Utilities you need to set up on your computer

- An USB driver must be installed on your computer. Refer to the separate detailed instructions for this procedure.
- A Local Area Connection must be configured in order to establish a communication between the process monitor and your PC. See below for this procedure.

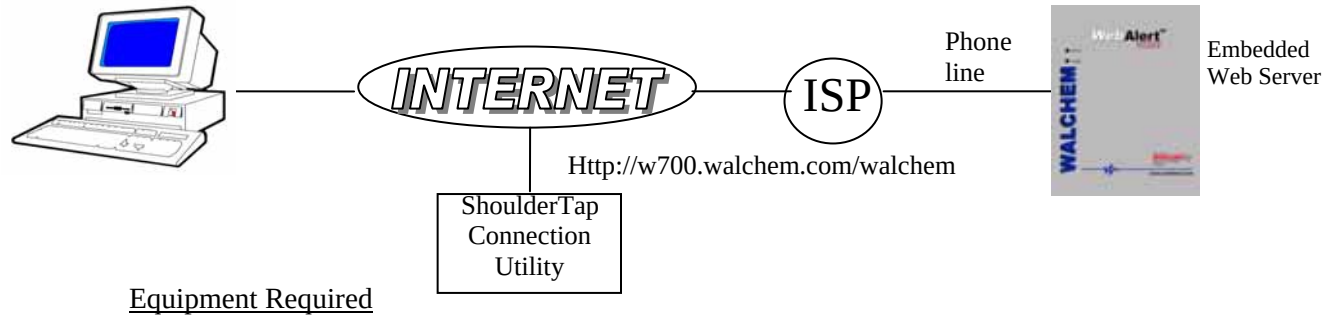
Parameters that need to programmed into the WebAlert

- The WebAlert is capable of this type of communication without any programming by the user prior to attempting the communication.

Steps Required to Establish a Connection

- Connect the USB cable between the WebAlert and your computer. A New Hardware Found wizard will launch.
- Install the driver on your PC by inserting the disc supplied and following the instructions. This needs to done only once for each PC that will be used to communicate with a WebAlert process monitor.
- Go to Control Panel, Network Connections, and locate the new Local Area Connection 2 that has been created. Click on the Properties button. Highlight Internet Protocol (TCP/IP) then click Properties. Click Use the following IP address and enter 199.199.199.1. Click OK to exit.
- Open Internet Explorer and type in the address 199.199.199.2.
- The sign-on screen of the WebAlert will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.2 Remote Modem Access: Shoulder Tap



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- An active analog phone line, direct to the process monitor (without a PBX system in between) must be connected to the modem of the WebAlert.
- A dialup account must be established for the WebAlert with an Internet Service Provider (ISP). The connection will only be as reliable as the ISP. You should avoid small mom-and-pop ISPs unless you know that they can provide reliable connection to the Internet. Contact Walchem for recommendations.

Features Required in the WebAlert

- The WebAlert must have the modem option installed in order to communicate via Shoulder Tap.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC.

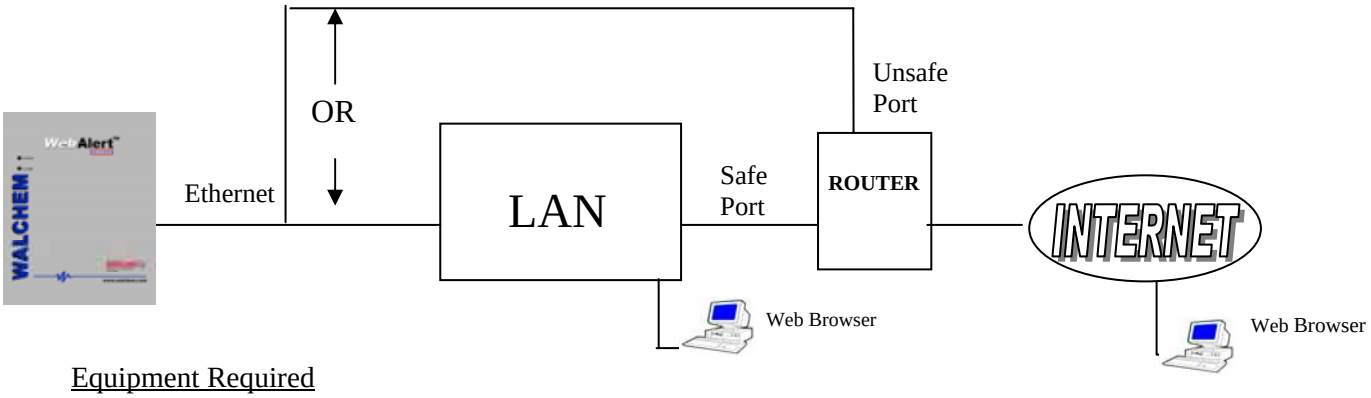
Parameters that need to be programmed into the WebAlert

- Prior to attempting a Shoulder Tap connection, the following information needs to be entered into the Communications page of the WebAlert, either via a direct serial connection or direct modem connection (Direct Tap). Some of this information needs to be provided to you by the Internet Service Provider (ISP) that the WebAlert will use to access the Internet.
- The unit's phone number.
- The local access phone number for the ISP. More than one access number may be entered.
- The ISP Username that the unit will use to connect to the ISP.
- The ISP Password that the unit will use to connect to the ISP.

Steps Required to Establish a Connection

- Connect your PC to the Internet.
- Enter the address http://w700.walchem.com/walchem/frontdoor.asp.
- Enter the Connection Utility Username and Password and click the Submit button.
- Enter the phone number of the unit and click the Connect button. After a few minutes, the sign-on screen for the WebAlert will come up.
- The sign-on screen of the WebAlert will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.3 Ethernet Connection to LAN



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- A connection between the PC and the local area network (LAN).
- An Ethernet connection between the WebAlert and the LAN.

Features Required in the WebAlert

- All WebAlert process monitors are capable of Ethernet communications.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC.

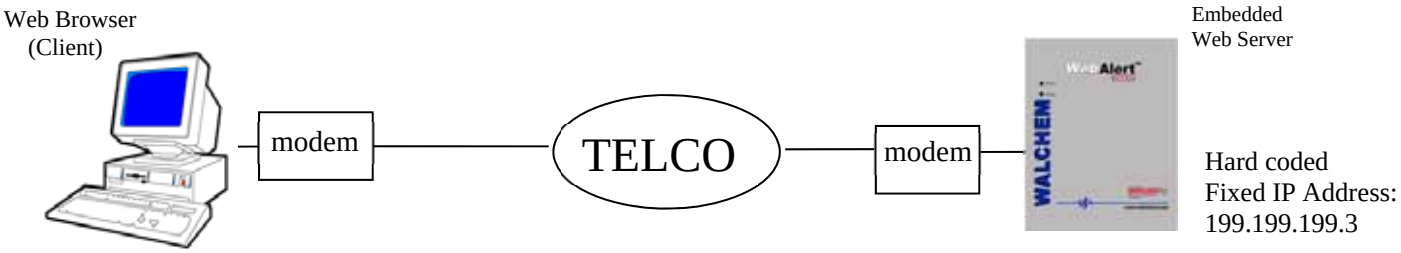
Parameters that need to be programmed into the WebAlert

- Prior to attempting an Ethernet connection, the following information needs to be entered into the Communication page of the WebAlert, either via a direct serial connection or via the Direct Modem option. This information must be provided by the IT Administrator of the LAN.
- The Ethernet IP address of the WebAlert. If the unit will only be accessed by computers on the LAN then this may be a fake IP address. If the unit needs to be accessible by computers not on the LAN then this must be a real IP address.
- The Subnet Mask.
- The Gateway IP address.

Steps Required to Establish a Connection

- Open Internet Explorer.
- Type in the Ethernet IP address that has been assigned by the IT Administrator.
- The sign-on screen of the WebAlert will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.4 Direct Modem Access: Direct Tap



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Windows operating system, modem and Windows Internet Explorer version 5.0 or higher web browser software.
- An active analog phone line, direct to the process monitor (without a PBX system in between) must be connected to the modem of the WebAlert.

Features Required in the WebAlert

- The WebAlert must have the modem option installed in order to communicate via Direct Tap.

Utilities you need to set up on your computer

- A Windows dialup networking adapter must be created. This dialup networking adapter is similar to but not identical to the one used in a direct serial connection. Refer to the separate detailed instructions for this procedure.

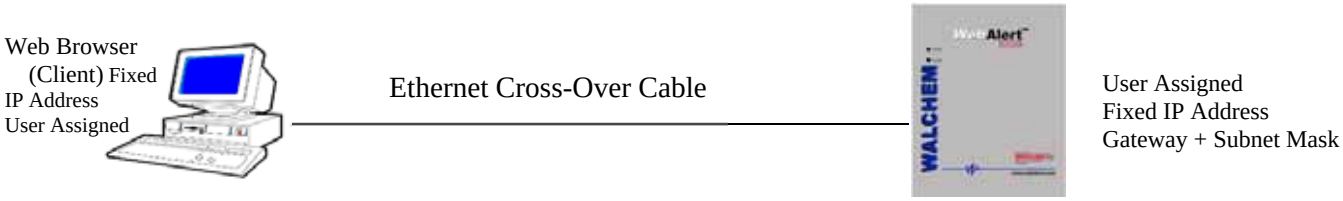
Parameters that need to be programmed into the WebAlert

- The WebAlert is capable of this type of communication without any programming by the user prior to attempting the communication.

Steps Required to Establish a Connection

- Create the dialup networking adapter on your PC. This needs to done only once for each PC that will be used to communicate with a WebAlert process monitor.
- Use the dialup networking adapter to connect the PC to the WebAlert.
- Open Internet Explorer.
- Type in the address 199.199.199.3. The sign-on screen for the WebAlert will come up.
- The sign-on screen of the WebAlert will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.5 Direct Ethernet (for a WebAlert not connected to a LAN)



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Ethernet card, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- A null Ethernet cable connection between the PC and WebAlert.

Features Required in the WebAlert

- All WebAlert process monitors are capable of Ethernet communications.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC. However if your laptop is used on a LAN it is likely that you will have to change your network TCP/IP properties to use a specific IP address for your PC instead of obtain an IP address automatically. You will have to specify the IP address, as well as the Subnet Mask and Gateway IP address.
- To set the PC to work with default WebAlert settings, the IP address is 10.0.100.30, subnet mask is 255.255.254.0, and the gateway is 10.0.100.30.

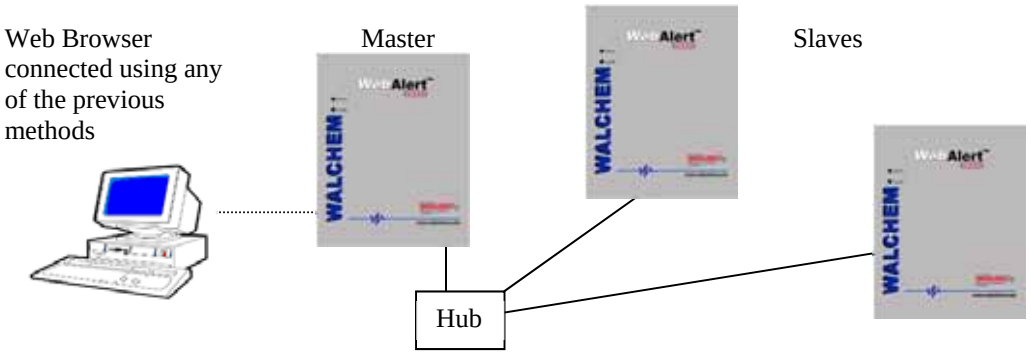
Parameters that need to be programmed into the WebAlert

- Prior to attempting an Ethernet connection, the following information needs to be entered into the Communication page of the WebAlert, either via an USB connection or via the Direct Modem option.
- The Ethernet IP address of the WebAlert.
- The Subnet Mask.
- The Gateway IP address.

Steps Required to Establish a Connection

- Open Internet Explorer.
- Type in the Ethernet IP address that has been assigned to the WebAlert.
- The sign-on screen of the WebAlert will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.

4.3.6 Networking WebAlert Process monitors via Ethernet



Equipment Required

- An Internet-ready computer with the following capabilities: 100 MHz minimum processor speed, 40 MB minimum RAM, Ethernet card, Windows operating system, and Windows Internet Explorer version 5.0 or higher web browser software.
- An Ethernet cable connection between each WebAlert using a hub or connection to LAN.

Features Required in the WebAlert

- All WebAlert process monitors are capable of Ethernet communications.

Utilities you need to set up on your computer

- There are no special drivers, adapters or other software components required on the PC to support networking. Refer to the previous sections for connecting to the master process monitor via USB, Ethernet, or modem.

Parameters that need to be programmed into the WebAlert

- Prior to attempting an Ethernet connection, the following information needs to be entered into the Communication page of each WebAlert on the network, either via an USB connection or via the optional modem.
- The Ethernet IP address of the WebAlert.
- The Subnet Mask.
- The Gateway IP address.
- The master must be selected as the master, and the slaves selected as slaves.
- Power must be cycled off and back on in order for the Ethernet changes to take affect, and for the master to detect the slaves.

Steps Required to Establish a Connection

- Connect to the master process monitor using one of the methods described in sections 4.3.1 through 4.3.5.
- The sign-on screen of the WebAlert will come up. Type the User Name and Password (Access Code) in the text boxes and click the Submit button. The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only, and "2003" for read only. These defaults can and should be changed in the Access Code page.
- Once connected to the master, you may connect to the slaves by clicking on the link under the heading of “Sub-Network”.
- You must log onto each slave using its user name and password.

4.4 Startup

Once the WebAlert has been set up for your application, start up is a simple process. Simply turn on the power, and it will begin monitoring the process.

4.5 Shut Down

To shut down the process monitor, simply turn off the power. All set points will be retained in memory.

5.0 OPERATION

When you first access the process monitor, the System Summary page will be displayed in the main frame of the browser, and the Name of the unit and Alarm Status will be displayed in the top frame. Links to each main menu page are located along the left side of the screen.
The menu pages are grouped by inputs, outputs, and utilities. Each input has fields for defining the type of input, selecting units of measure, etc. as required. The alarm output has menus for selecting the types of errors that will trigger the relay, cell phone text message or email notification. The utilities allow you to set up the data logging, auto-reporting, access codes, communications, etc.

5.1 Menu Selection Links

Along the left side of your PC monitor will be links to the various menu pages.
Below is a list of all possible Menu selections.

Startup
System Summary
Analog Inputs
- 4-20 mA Inputs
- 4-20 mA Calibration

Digital Inputs
- Flowmeter
- Generic Inputs
- Generic Counters
- Digital Inputs

Outputs
- Alarm

Utilities
- System Auto Report
- Datalog Auto Report
- Manual Datalog
- Graphing/Trending
- Communications
- Software Upgrade
- Configuration File
- Notepad
- Access Codes
- WebAlert Help
- Walchem Home Page

5.2 Startup

Select the option that you want for each of the sections on the page. When you click on the “Submit” button at the bottom of the page, your changes will take effect. If you move to another page without clicking “Submit” first, your changes will be lost!

Custom Name

Type the name that you want to use to identify the unit, up to 32 characters, in the text box. For example, “XYZ Corp, North Tower”.

Time & Date

Update the date and time by typing in the desired values and clicking the arrow on the AM/PM pull-down list and selecting the correct value.

Site Location

Type the location of the process monitor in the text box.

Date Format

Click on the radio button that corresponds to the desired date format. The choices are Month/Day/Year, Day/Month/Year or Year/Month/Day.

Digital Input Assignment

Click on the radio button that best describes the devices that you have connected to the digital inputs for each input labeled 1 through 2. Make sure that you select the type of device that is actually wired to that terminal of the card!

Not Used should be selected if nothing is attached to that input.

Contacting Flow Meter should be selected if a low frequency (10 Hz maximum) contacting-head water meter is connected to that input. These are generally reed switch sensors that give one dry contact closure every gallon or more of volume through the meter. . A sensor of this type must be connected to Digital Input 1-4.

Paddlewheel Flow meter should be selected if a high frequency (greater than 10 Hz) Hall Effect paddlewheel flow meter is connected to that input. This option will give you the ability to specify a K Factor to convert contact closures into a flow rate. A sensor of this type must be connected to Digital Input 1-4.

Generic Input should be selected if the digital input state (open or closed) will indicate an alarm condition or if the input state needs to be logged. The WebAlert allows you to specify a custom message to be delivered if the contact is open or closed. A sensor of this type can be connected to any Digital Input.

Generic Counter should be selected if the contact closure from the sensor will be used to log counts and/or to initiate a relay to activate for a given time after a given number of counts. . A sensor of this type must be connected to Digital Input 1-4.

4-20 mA Input Assignment

Click on the radio button which best describes the devices you have attached to the 4-20 mA inputs, for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

Not Used should be selected if nothing is connected to that input.

Level should be selected if a continuous level transmitter is attached to that output. Later when you get to the 4-20 mA Input Page, you will be able to name the input, define the Units of Measure, and also set alarm limits. Usage will be calculated and displayed on the System Summary page.

Flow Meter should be selected if flow transmitter is connected to that input. Later when you get to the 4-20 mA Input Page, you will be able to name the input, scale it, define the Units of Measure), and also set alarm limits. It will display rate and total. Any other transmitter where it is desired to track rate and total can also be configured as a Flow Meter type.

Generic Input should be selected if the 4-20 mA transmitter connected to that input is anything other than the previously mentioned ones. Later when you get to the 4-20 mA Input Page, you will be able to name the input (for example, Temperature or Pressure), scale it, define the Units of Measure (like degrees C or Bars), and also set alarm limits.

5.3 System Summary Menu

There are no programmable parameters in the System Summary Menu page. Several tables will be displayed, with information on 4-20 mA inputs values, alarm relay state, digital input state, active alarm messages, etc.

5.4 4-20 mA Inputs

This page is used to configure the 4-20 mA inputs. If you have set the type of input in the Startup page, this page will already be showing the correct fields to set up each input type. If you have not already set the input types, you can do that here, then click the Submit button. When the page refreshes the correct fields will appear.

Select the options that you want for each of the sections on the page. When you click on the “Submit” button at the bottom of the page, your changes will take effect. If you move to another page without clicking “Submit” first, your changes will be lost!

4-20 mA Input Assignment

Click on the radio button which best describes the devices you have attached to the 4-20 mA inputs, for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

See section 5.2 for a description of each input type.

Level (4-20 mA) Input Menu

(only appears if a 4-20 mA input is assigned to be a Level type)

Input
Displays which 4-20 mA inputs are defined as level inputs.

Custom Name
You may give the level input a custom name by typing it in the text box.

Present Value
This displays the current level in that container.

Present mA
This displays the mA output of the level transmitter, before it is converted into a volume, distance or other engineering units. This is helpful for troubleshooting.

Status
This displays current status of the input. Possible status messages for level transmitters are; Normal (everything is OK), Sensor Error (the sensor signal is not valid), Over Range (between 20 and 21 mA), Under Range (between 3.9 and 4.0 mA), Low Alarm or High Alarm.

4 mA =
Type into the text box the engineering unit value that corresponds to a 4 mA signal.

20 mA = (Max. Capacity)
Type into the text box the engineering unit value that corresponds to a 20 mA signal

Units
Type into the text box the units of measured desired.

Low Alarm Limit
Type into the text box the Level at which you want a low alarm to occur. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

High Alarm Limit
Type into the text box the Level at which you want a high alarm to occur. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Low-Low Alarm Limit
Type into the text box the Level at which you want a low-low alarm to occur. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

High-High Alarm Limit
Type into the text box the Level at which you want a high-high alarm to occur. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Alarm Dead Band
Type in the text box the dead band to be used for each alarm set point.

Damping
Damping is applied to the input by taking a running average of the readings of the input signal over the time frame specified by the damping setting (0-60 seconds). The averaged reading is displayed and used for control. Type in the text box the desired time frame.

Generic 4-20 mA Input

This type of analog input is programmed exactly like the Level type. The only difference is that the Level type will calculate the Usage, while the Generic type will not.

Flow meter 4-20 mA Input

Input
Displays which 4-20 mA inputs have been selected as “Flow meter” type.

Custom Name
You may give the input a custom name by typing it into the text box.

Rate
This displays the current reading of the flow meter, using the mA signal from the device, the span of the 4-20 mA signal defined in “4 mA =” and “20 mA =” below, and the units of measure defined below.

Present mA
This displays the present raw mA signal from the flow meter. This is helpful in troubleshooting.

Status
This displays whether the present value is “Normal”, or in a “Low Alarm” or “High Alarm” condition. Possible status messages are; Normal (everything is OK), Sensor Error (the sensor signal is not valid), Over Range (between 20 and 21 mA), Under Range (between 3.9 and 4.0 mA), High Alarm, Low Alarm or Total Limit.

4 mA =
Type into the text box the value that corresponds to a 4 mA output signal from the device. For example, if the flow transmitter sends out 4 mA at 0.00 gpm, type in 0.00. Any value between –100,000 and 100,000 is acceptable.

20 mA =
Type into the text box the value that corresponds to a 20 mA output signal from the device. For example, if the flow transmitter sends out 20 mA at 100 gpm, type in 100. Any value between –100,000 and 100,000 is acceptable.

Units
Type into the text box the units of measure that you want to use for the device connected to that input. For example, you could use “gal”, etc.

Rate Low Alarm
Type into the text box the value for that input below which you want a low alarm to occur. Any value between –100,000 and 100,000 is acceptable. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate High Alarm
Type into the text box the value for that input above which you want a high alarm to occur. Any value between –100,000 and 100,000 is acceptable. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate Low-Low Alarm
Type into the text box the value for that input below which you want a low-low alarm to occur. Any value between –100,000 and 100,000 is acceptable. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate High-High Alarm
Type into the text box the value for that input above which you want a high-high alarm to occur. Any value between –100,000 and 100,000 is acceptable. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Alarm Dead Band
Type in the text box the dead band to be used for each alarm set point.

Damping
Damping is applied to the input by taking a running average of the readings of the input signal over the time frame specified by the damping setting (0-60 seconds). The averaged reading is displayed and used for control. Type in the text box the desired time frame.

Total

This field displays the total flow accumulated since the last time it was reset.

Reset Total

Click on this button to reset the total.

Last Reset Date

This field displays the date and time of the last time the total was reset.

Total Alarm Limit

Type into the text box the total volume of flow above which the alarm will activate.

5.5 4-20 mA Calibration

Set 4 mA
Following the instructions for your 4-20 mA transmitter, supply the WebMaster Industrial Water with a 4 mA signal from each transmitter. You should verify that the transmitter is accurate by measuring the output with an ammeter. You can read the present value of the mA signal as measured by the WebMaster Industrial Water in the second column of the table. If the present value is not exactly 4 mA, click on the “Set 4 mA” button. You will be asked to verify that you want to change the calibration. Once this is done, the controller will read the transmitter signal as exactly 4 mA.

Set 20 mA
Repeat this process, supplying the WebMaster Industrial Water with a 20 mA signal from each transmitter, and click on the “Set 20 mA” button in order to calibrate the controller.

1 Pt Cal
The 1-Point Calibration allows you to adjust the current reading of the process value to match what the actual value is as measured by some independent method (such as a laboratory measurement or handheld instrument). The software will maintain the "4 mA =" setting used to scale the input, and adjust the "20 mA =" setting to make the reading accurate at the value entered in the 1-Point Calibration. A new window will open when you click the 1 Pt Cal button.

Current mA
Displays a live reading of the mA output of the transmitter.

Current Value
Displays the live calculated process value, using the existing 4 mA = , 20 mA = and Units settings.

New Value
Enter the desired new reading for the process value, and then click Continue.

At the end of the calibration, the display will tell you if the calibration was successful or if the calibration failed. If successful, click Close to resume control. If failed, refer to Section 8 for troubleshooting help.

Reset Defaults
If for any reason you want to go back to factory default settings for the calibration coefficients, click on the Reset Defaults button. You will be asked to verify that you want to change the calibration. Click Yes to continue. Another window will pop up to tell you that the calibration was successful.

5.6 Digital Inputs

This page is used to configure the digital inputs. If you have set the type of input in the Startup page, this page will already be showing the correct fields to set up each input type. If you have not already set the input types, you can do that here, and then click the Submit button. When the page refreshes the correct fields will appear.

Select the options that you want for each of the sections on the page. When you click on the "Submit" button at the bottom of the page, your changes will take effect. If you move to another page without clicking "Submit" first, your changes will be lost!

Flow meter (Paddlewheel Type)

Custom Name
You may give the input a custom name by typing it in the text box.

Total
The total water flow since the last time the total was reset will be displayed here. The Reset Total button allows you to set the total back to 0.

Last Total Reset
The date and time of the last time the total was reset will be displayed here.

Rate
The current flow rate will be displayed here. The unit of measure used is defined below.

Status
This menu reports the status of the input. Possible messages are Normal, High Alarm, Low Alarm, or Total Limit.

Units
Select the units of flow that you want to use. The choices are Gallons, Liters or Cubic Meters per minute.

K Factor
The instructions for the flow meter, or the flow meter itself should have the K Factor (pulses per unit volume) that is necessary to calculate the flow rate. Type this into the text box.

Total Alarm Limit
You may specify a total amount of volume accumulated above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate High Alarm
You may specify a flow rate above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate Low Alarm
You may specify a flow rate below which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate Low-Low Alarm
You may specify a flow rate below which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate High-High Alarm
You may specify a flow rate above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Alarm Dead Band
Type in the text box the dead band to be used for each alarm set point.

Damping
Damping is applied to the input by taking a running average of the readings of the input signal over the time frame specified by the damping setting (0-60 seconds). The averaged reading is displayed and used for control. Type in the text box the desired time frame.

Flow meter (Contact Type)

Custom Name
You may give the input a custom name by typing it in the text box.

Total
The total water flow since the last time the total was reset will be displayed here. The Reset Total button allows you to set the total back to 0.

Last Total Reset
The date and time of the last time the total was reset will be displayed here.

Status
This menu reports the status of the input. Possible messages are Normal or Total Limit.

Units
Select the units of flow that you want to use. The choices are Gallons, Liters or Cubic Meters per minute.

Volume per Contact
The instructions for the flow meter, or the flow meter itself should have the volume per contact that is necessary to calculate the total flow. Type this into the text box.

Total Alarm Limit
You may specify a total amount of volume accumulated above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Generic Input

Custom Name
You may give the input a custom name by typing it in the text box.

Custom Message for Open Contact
You may specify a custom message to be displayed in the System Summary when the digital input contact is open. Type it in the text box.

Custom Message for Closed Contact
You may specify a custom message to be displayed in the System Summary when the digital input contact is closed. Type it in the text box.

Alarm Active when Contact is
Select the state of the digital input that corresponds to an alarm condition. If Open or Closed is selected, then when the switch is in that state the critical alarm action specified in the Alarm page will occur. If Neither is selected, then neither contact state will initiate the critical alarm action.

Generic Counter

Custom Name
You may give the input a custom name by typing it in the text box.

Total
The total number of counts since the last time the total was reset will be displayed here. The Reset Total button allows you to set the total back to 0.

Last Total Reset
The date and time of the last time the total was reset will be displayed here.

Rate
The current rate of contact closures will be displayed here. The unit of measure used is defined below.

Status
This menu reports the status of the input. Possible messages are Normal, High Alarm, Low Alarm, or Total Limit.

Custom Units
Select the units of measure that you want to use. Type the name in the text box.

One Count =
This menu allows you to specify that each count (contact closure) signifies a certain number of the custom units of measure. For example, one count could equal 100 liters of fluid.

Total Alarm Limit
You may specify a total number of counts accumulated above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate High Alarm
You may specify a contact rate above which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate Low Alarm
You may specify a contact rate below which an alarm message will occur. Type this in the text box. You must go to the Alarm page to specify that this alarm condition is a critical alarm in order to close the alarm relay or send an email.

Rate Units
Use the pull-down to specify the units of measure for the rate. The choices are pulses per second, minute, hour, day, week, month, or year.

Digital Input Assignment

Click on the radio button that best describes the devices that you have connected to the digital inputs for each input labeled 1 through 6. Make sure that you select the type of device that is actually wired to that terminal of the card!

Not Used should be selected if nothing is attached to that input.

Paddlewheel Flow meter should be selected if a high frequency (greater than 10 Hz) Hall Effect paddlewheel flow meter is connected to that input. This option will give you the ability to specify a K Factor to convert contact closures into a flow rate.

Contact Flow meter should be selected if a low frequency (less than 10 Hz) Hall Effect or reed switch style water meter contactor is connected to that input. This option will give you the ability to specify the volume of water that will give a contact (generally in multiple gallons or liters per contact).

Generic Input should be selected if the digital input state (open or closed) will indicate an alarm condition or if the input state needs to be logged. The WebAlert allows you to specify a custom message to be delivered if the contact is open or closed.

Generic Counter should be selected if you need to keep track of the rate of contact closures, or the total number of contact closures.

5.7 Alarm

This page is used to configure the Alarm Output. Select the options that you want for each of the sections on the page. When you click on the “Submit” button at the bottom of the page, your changes will take effect. If you move to another page without clicking “Submit” first, your changes will be lost!

Relay Control Mode

Use the pulldown arrow to select if the relay will be Not Used or will be set to Alarm.

Alarm Condition

In the left hand column, a list of all possible alarm conditions will be displayed. Only the alarm conditions that are possible given how your process monitor is configured will appear. To the right of each type of alarm condition there will be a column labeled Critical Alarm with a choice of “Yes” or “No”. Click on the “No” radio button if you do not want that type of alarm to be considered critical.

If an alarm condition is selected as a critical alarm, then you have the option of being notified that the alarm condition exists, by triggering the alarm relay, or sending an email.

The WebAlert will attempt to send the alarm message email five times at 5 minute intervals and will then stop trying, even if unsuccessful.

Status

This menu is for information only, and tells you if the alarm relay is currently on or off, and if it is on, for how much time. Possible status messages are Off, Off | Manual, On - Time counting up (indicating how long the alarm relay has been active) and On - Time counting down | Hand (for manual output activation).

Custom Name

You may give the relay a custom name by typing it in the text box.

Critical Alarm Action

Click on the check box to the left of the action or actions that you want to occur if a critical alarm condition exists. The process monitor can close or open the alarm relay or send an email, or any combination of the above.

Remote Alarm Delay Time

In order to avoid being notified of an alarm condition that quickly corrects itself, you may set a delay time for the alarm action. If the alarm condition still exists at the end of the delay time, then the alarm action will occur. If the alarm condition no longer exists at the end of the delay time, no notification will occur. Any value between 0 and 1440 minutes is acceptable.

Dry Contact Relay Logic

Click on the radio button that describes how you want the alarm relay to act. The normal method is to close the relay when an alarm condition exists, but you can also open the relay.

Output Time Limit

Type in the text box the maximum time for the alarm relay to be active. Setting the time to zero will allow the alarm to be active indefinitely.

Output Mode

Click on the radio buttons to manually control the alarm relay. The normal selection will be *Auto*, where the WebAlert uses the various set points to open and close the relay. You can force the relay open regardless of the presence of an alarm condition by selecting *Off*, or force the relay closed regardless of the presence of an alarm condition by selecting *Hand*.

If you select Off, the alarm relay will not be triggered again until either Hand or Auto is selected, or unless power to the unit is cycled off and on! If you select Hand, the relay will be closed until either Auto or Off is selected, or until the Hand Time Limit (programmed in the next menu) expires.

The Off mode is handy to use as an alarm silence. The Hand mode is handy to be able to test the relay, wiring, etc without needing to force an alarm condition.

Hand Time Limit

Type in the text box the maximum number of minutes that the alarm output can be activated in the Hand mode. Any value between 0 and 1440 is acceptable. A value of 0 means the output can be left on indefinitely.

Alarm Action Status

This menu is for information only, and displays the status of the remote alarm notification. The possible messages to display are:

Alarm action completed:	The last alarm notification has already occurred and no further action is pending.
Found new alarm:	A new alarm has occurred and no notification has yet occurred.
Alarm due in HH:MM:SS	The alarm delay time will be displayed with time counting down.
Taking action:	The alarm notification is about to occur.
Sending email:	If notification is via email, this will be displayed.

Alarm Action Log

Click the link to View Log File. The Alarm Action Log will tell you the status of any alarm emails that may have been sent. It will show you the date and time of the alarm, the method of alarm notification, whether it was successful at sending the message or not, and the type of alarm.

A window will open to ask if you would like to open the file or save it to disc. Select the method you would like to use. The file is a basic text file with a .log extension that may be opened in any word processing program (Word, Notepad, etc.).

Event Log

Click the link to View Log File. It will display the date and time of the alarm relay or any Generic Input type digital input changing states.

5.8 System Status Auto-Reporting

The system status auto report is an email in html format that is a snapshot of current conditions, identical to what is displayed on the System Summary web page.

System Status Reporting

Click the appropriate radio button to select whether the report should be sent by email (Enable) or not (Disable).

Auto Report Log

Click the link to View Log File. The Auto Report Log will tell you the status of any report emails that may have been sent. It will show you the date and time of the report, the type of report, the method used to send it, whether it was successful at sending the message or not, and the reason for a failure if applicable.

A window will open to ask if you would like to open the file or save it to disc. Select the method you would like to use. The file is a basic text file with a .log extension that may be opened in any word processing program (Word, Notepad, etc.).

Status

This menu is informational only, telling you when the next report is due to be sent.

Reporting Mode

Click the appropriate radio button to select an Hourly, Daily, Weekly, Biweekly, or Monthly report frequency. Type the time of day for receiving the report in the text boxes, and use the pull down menus to select the desired day, and to select AM or PM.
Important: If this unit is part of a network of controllers, you must stagger the reports from each controller in the network to occur at least an hour apart. Failure to do this could result in lost reports!

Report Testing

Click the Send a Test Report Now button to see if the report will be sent correctly. The email address entered in the Communications page will be used. If you haven't already entered this information, go the Communications page and do so before trying a test report.

5.9 Datalog Auto Report

The other type of automatic report is a data log report. This report will email a data log file of any parameters selected. This file may be opened in a spreadsheet for graphing or other data manipulation. This report is sent on a cyclical schedule.

The Manual (see section 5.10) and Auto Reporting data logs are dynamically connected to each other. For each data log, select the parameters to log, and the maximum time frame of the data log and submit the changes. The controller will calculate the minimum interval between data points based on available memory, memory required for each data log, and the settings for each data log.

Note that if you have a data log building, and you change the parameters to log, log duration or logging interval, any data previously gathered will be lost! If the changes to one log results in less memory being available for the other data log, the other log's minimum logging interval may change, erasing the other data log as well.

Data Log Reporting

Click the appropriate radio button to enable or disable the data log report feature.

Auto-Report Log File

Click on the link called Log to download the Auto-Report log. This log details the date and time of the report, which type of report was sent, how the report was sent (email via modem or email via Ethernet), if the report was sent successfully or not, and if not, what the problem was. You will be presented with the standard Windows dialog box, asking if you want to open the file or save it. If it's to be saved, it asks what the file should be named and where you want the file to go. The file is a basic text file with a .log extension that may be opened in any word processing program (Word, Notepad, etc.).

Logging Status

For information

Cyclical Log Duration

Select the maximum duration of the data log by clicking the radio button next to the time frame required. The choices are Monthly, Bi-Weekly, Weekly, Daily, Every 12 hours and Hourly. Also select the time of day for the report to be sent.
Important: If this unit is part of a network of controllers, you must stagger the reports from each controller in the network to occur at least an hour apart. Failure to do this could result in lost reports!

Minimum Logging Interval

The minimum time between data points will be calculated based upon the number of parameters selected to log between the Auto Report Datalog and the Manual Datalog, and the log durations.

Logging Interval

Type in the text box the time required between data points. If this is set to a particular value, and changes to the logging parameters results in a larger minimum interval, the time previously set will be replaced by the new minimum interval.

Event Triggered Logging

If the data needs to be collected only when triggered by an external event, such as an alarm condition or a signal from a dry contact switch connected to a digital input, click Enable. A link to a list of possible triggers will appear once the changes have been submitted. Click this link, select the events to use to trigger data logging, then go back to the Auto Reporting page. The data will be collected for as long as the trigger is active.

Select items to log

You will be presented with a list of all of the parameters that can be logged, including analog input readings, totalizers, flow rates, and 4-20 mA input raw mA. The contents of the list will vary depending on what options you have installed or programmed. Click the "Yes" radio buttons of the parameters that you want to log, and the "No" radio buttons of the parameters that you do not want to log.

Log Files

Links to the last two copies of the log files are saved in the event that the emails fail to be sent successfully. Click on the link to manually retrieve the file.

5.10 Manual Datalog

You may either download data files automatically, or manually. To have the data automatically sent to you via email, set up the data log in the Auto Reporting page (See Section 5.9).

The Manual and Auto Reporting data logs are dynamically connected to each other. For each data log, select the parameters to log, and the maximum time frame of the data log and submit the changes. The controller will calculate the minimum interval between data points based on available memory, memory required for each data log, and the settings for each data log.

Note that if you have a data log building, and you change the parameters to log, log duration or logging interval, any data previously gathered will be lost! If the changes to one log results in less memory being available for the other data log, the other log's minimum logging interval may change, erasing the other data log as well.

The data is collected into a log file until the end of the maximum duration, or until a user downloads the file, (if the Delete Log After Download feature is enabled) whichever comes first. Once the log file is downloaded, it is erased and a new log file is started. If the file is not downloaded by the end of the maximum duration, or if the Delete Log After Download feature is disabled, the log file is saved and a new file is started. No more than two files may be stored at any time, so if the file is not downloaded by the time the second file is full, the first file is erased.

Maximum Log Duration

Select the maximum duration of the data log by selecting the time frame from the pulldown list. The choices are 1 Month, 2 weeks, 1 week, 1 day, 12 hours and 1 hour.

Logging Status

For information

Minimum Logging Interval

The minimum time between data points will be calculated based upon the number of parameters selected to log between the Auto Report Datalog and the Manual Datalog, and the log durations.

Logging Interval

Type in the text box the time required between data points. If this is set to a particular value, and changes to the logging parameters results in a larger minimum interval, the time previously set will be replaced by the new minimum interval.

Delete Log After Download

If you want the datalog file to be automatically deleted once it is saved, leave this selected as 'Enable'.

Event Triggered Logging

If the data needs to be collected only when triggered by an external event, such as an alarm condition or a signal from a dry contact switch connected to a digital input, click Enable. A link to a list of possible triggers will appear once the changes have been submitted. Click this link, select the events to use to trigger data logging, then go back to the Auto Reporting page. The data will be collected for as long as the trigger is active.

Select items to log

You will be presented with a list of all of the parameters that can be logged, including analog input readings, totalizers, flow rates, and 4-20 mA input raw mA. The contents of the list will vary depending on what options you have installed or programmed. Click the "Yes" radio buttons of the parameters that you want to log, and the "No" radio buttons of the parameters that you do not want to log.

Log Files

Links to the last two copies of the log files are saved. Click on the link to manually retrieve the file.

Click on the "Submit" button to save the changes.

5.11 Graphing/Trending

Recent data may be viewed in a graphic format on-line without downloading it to a computer first, and without opening it in a spreadsheet.

At the top of the page, a selection of boxes will be displayed. Check the box of the parameter that you would like to see graphed. The choices will be any 4-20mA input that is being used. Then select the Time Span of the data by selecting it from the pull-down. The choices are Last Hour, Day, 7 Days, 14 Days and 32 Days.

Click the Submit button for the changes to take effect.

The graphs selected will be presented below.

5.12 Communications Menu

Internet Dial Up Account (only appears if a modem is installed)

Controller ISP User Name
When the controller needs to dial out and connect to the Internet Service Provider, it needs to identify itself with a user name, so that the ISP knows that it has an account. Type in the text box the user name that the controller will use.

Controller ISP Password
Similarly, the controller needs to identify itself with a password in order to connect with the ISP. Type in the text box the password that the controller will use. The password can also be changed here.

Primary ISP Phone No.
Type in the text box the access phone number for the controller's Internet Service Provider.

APN (only appears with GPRS activations)
Type in the text box the APN (Access Point Name) provided by the cell service provider.

Controller Phone No
When you need to communicate with the controller, you go to the web site, link to the controller's access page, and a call is made from our server to the controller to wake it up. Type in the text box the phone number for the line to which the controller is connected. Use the pull down menu to select the country where the controller is located.

Custom Country Code
If the country code required is not in the pull-down list, select (Other) Customer Country Code from the pull-down and then enter the country code in the text box.

Ethernet (LAN)

Enable DHCP
Click on the radio button to enable DHCP if you want the controller to obtain its IP address from the local area network. This option only works if the controller is connected to a LAN.

Ethernet IP Address
When a controller is attached to a network, your IT Administrator needs to assign it an Ethernet IP address. When you want to communicate with the controller from your PC on the network, you go to your Browser and type in the controller's address. Type that address into the text box.

Ethernet IP Netmask
When a controller is attached to a network, your IT Administrator must also assign the IP Netmask. Type the number assigned in the text box.

Ethernet Gateway
When a controller is attached to a network, your IT Administrator must also assign the Gateway. Type the number assigned in the text box.

Network Mode
If you have purchased the software to allow networking of controllers via Ethernet, use the pull down arrow to select the role that this controller will serve on the network. If it is not part of a network of controllers, select "Independent". If it is the Master, select "Master". If it is the Slave, select "Slave". Once the network mode has been selected, the power to the controller must be cycled in order for the change to take effect.

Network Detection (only appears if the controller has master networking activated)
Click on the Detect Network button of the Master Controller and it will look at all of the devices that are connected to it, determine which devices are its slaves, and refresh the Sub-Network frame in the lower left corner of your browser with all of the slaves detected.

Email To Addresses

1st Address – 4th Address
When the controller needs to send an email for notification of an alarm condition, or to send out a scheduled report, these are the email addresses that it will use. Type in the text boxes the addresses to which you want the controller to send emails.

Cell Phone Text Message Addresses

The email message above is in html format and will not be displayed correctly on a cell phone. The cell phone text message email will be truncated. Data log and summary reports are not sent to these addresses, only alarm emails.

1st Address – 4th Address
Type in the text box the addresses for a text message to be sent. Up to four addresses are available.

Email and Text Message Settings

Controller Email Address
The controller needs to be given an email address, which your ISP uses to identify the controller as having an account, so that the ISP will accept the email that the controller is sending, and route it to the intended recipient. Type in the text box the controller's email address.

Send Email Via
If you have both a modem card and an Ethernet card installed, click on the radio button of which you need to use to send an email notification of an alarm condition, or an automatic report.

Email and Text Message Server Settings

SMTP IP Address
In order for the controller to send an email, the email must first be routed to the SMTP IP address that the Internet Service Provider specifies. Obtain this address from your ISP and type it into the text box.

SMTP Port
If the SMTP server being used requires a different port than the standard port 25, enter that in the text box.

ASMTP Settings

ASMTP User Name
Type in the user name required for authenticated SMTP emails.

ASMTP Password
Type in the password required for authenticated SMTP emails.

Use ASMTP for email
Check the box if your Internet service provider requires authenticated SMTP for its emails.

Communications Status

Gateway Access (VNet activations only)
This field is for information and displays if the controller is connected to the remote server or not and when the connection was made.

Connection Status
This menu is informational only, and tells you what is happening with the Internet connection. Possible status messages vary with the type of connection and include:

Message	**Explanation**
▪ Off Line	The controller is not connected.
▪ Dialing xxx-xxxx	The controller is dialing out to the ISP.
▪ No Dial Tone	The controller can not dial out due to phone line or modem problems.
▪ No phone number	There is nothing entered in the ISP Phone No. field.
▪ Connecting to ISP	The controller is successfully negotiating a connection with the ISP.
▪ On Line	The controller is now on the Internet.
▪ Checking for Upgrade	The controller is communicating with our server to see if a software upgrade is available.
▪ Connection Timeout in xxxxx sec The number of seconds displayed depends upon the value entered in the Connection Lifetime text box described below.	Once the Internet connection process is complete.

Dynamic IP Address
This menu is informational only, and tells you the IP address of the last person to contact the controller.

Last Connection Date and Time
This menu is informational only, and tells you when the controller was contacted last.
Click on the "Submit" button to save the changes.

Connection Lifetime (PSTN or cell modem only)
This menu allows you to set a time limit on the Internet connection if no changes have been made. This will help control the cost of operating the controller if you forget to log off. Type in the text box the number of minutes that you want to pass by before disconnecting the Internet connection.
Entering a connection lifetime of "0" means the connection will never timeout.

Manual Internet Connection (PSTN or cell modem only)
Click on the Connect button to manually test the WebAlert's ability to successfully connect to the ISP. This is convenient on installation, or to troubleshoot Internet connection problems. The Connection Status field will display what is happening as described above. Once you see that the Connection Status is "On-line", you may disconnect the controller from the Internet by clicking the Disconnect button.

Signal Strength Test
Click the Start Test button. It will prompt you to verify that you really want to start the setup. Click Yes and the test will begin. The controller will disconnect from the Internet and show the current signal strength in the Last Known Signal Strength field below.

Click on End Test when you have finished. The dialup status should return to "Off Line."

Signal Strength Test Suggestion
This field will tell you whether the signal strength is Good, or if its Bad and you should try to relocate the antenna.

Last Known Signal Strength
This field will display the actual modem response string from the wireless modem. An rssi signal of 12-36 is good, the higher the number the better. If it's 12 then the signal is very marginal and you should attempt to improve it. A signal of 99 is very poor.

Internet Connection Log (PSTN or cell modem only)
Click on the link to view the Internet Connection log file. You will be prompted to either open the file (.csv format, normally opened in a spreadsheet) from its current location or to save the file to disk. Make your selection. The file will display the date and time of all Internet connections, the type of connection (ShoulderTap or Direct Modem) if the attempt was a success or a failure, and if it failed, what the failure mode was.

VNet Log (VNet activations only)
Click on the link to view the VNet Connection log file. You will be prompted to either open the file (.csv format, normally opened in a spreadsheet) from its current location or to save the file to disk. Make your selection. The file will display the date and time of the VNet connections, if the attempt was a success or a failure, and if it failed, what the failure mode was.

Activations

Enter Activation Key
Type the activation key code into this field and submit in order to activate any special software feature.

Upload Key File
Rather than type the key, a key file may be imported in order to activate a special software feature. Browse for the file, and once it is selected, click the Import Key File button.

Activation Status
For information, this field shows if any special software features have been activated.

Activation Log
Click on the Activations Log link to view the log file. You will be prompted to either open the file (.csv format, normally opened in a spreadsheet) from its current location or to save the file to disk. Make your selection. The file will show the status of past activation attempts.

Activation Table
The table will display a list of all activations, their key numbers, their status, and allows you to temporarily disable and re-enable the activation, or permanently delete the activation. **A deleted activation cannot be recovered and a new activation would need to be purchased to get the feature back!**

5.13 Advanced Communications Settings

Internet Dialup (only appears if PSTN modem is installed)

Wait for dial tone before dialing
Click to place a check in the box if you want the modem to wait for a dial tone before calling out. In some countries the dial tone may not be recognized. If the modem will not recognize the dial tone, uncheck the box.

Modem Baud Rate
Click on the arrow of the pull-down to select different modem baud rates. The WebAlert modem is 38400. Normally there will be no reason to change the baud rate. The baud rate may be reduced if the process monitor is having problems at the higher speed due to poor phone line conditions. In the future, external modems may be supported that may not have the same baud rate.

Controller Telco Location
Click on the arrow of the pull-down to select the country where the process monitor is located.

Cellular Modem (only appears if cellular modem is installed)

Modem Initialization String
Type in the text box the modem initialization string required for your cell service. It will be in the format AT+CGDCONT=1,”IP”,”APN” where APN is the Access Point Name provided by the cell service provider.

SIM Card Number
For information only. The number is read from the SIM card.

Modem Type
Select between North America and Outside North America to specify the band of the cell modem.

Modem Band
Display the band of the modem.

Modem Baud Rate
Click on the arrow of the pull-down to select different modem baud rates. The baud rate will be negotiated at power-up. Normally there will be no reason to change the baud rate. The baud rate may be reduced if there are problems at the higher speed due to poor signal conditions.

Maximum PPP MTU Size
Normally the PPP MTU packet size will be negotiated with the cell service. Some services require a manual setting of a smaller size. Type this in the text box if necessary.

Network Settings

Primary and Secondary DNS IP Address
These text boxes contain the address of a valid Domain Name Server, which allows the WebAlert to send the emails using the name of the email server rather than the numeric SMTP IP address. The DNS IP addresses should never need to be changed, unless the server is experiencing problems.

Ethernet MAC Address
This field displays the MAC address of the Ethernet circuit, in case it is needed by the network IT administrator to identify the controller.

Gateway Port (only for VNet Activations)
Type the desired VNet port in the text box. This will normally not change from the default port of 1194.

Sub-Network Settings (only appears if the controller has master networking activated)

Mapped Internet IP Address
If you are accessing the master process monitor by using NAT to translate a real IP address to a fake IP address, then type the real IP address into this field of the master process monitor.

Direct Modem Connection (Point-to-Point)

Minimum required direct modem rings
The modem will answer after 4-9 rings. The default value is 7. If this is a problem because the phone system will not allow that many rings, type the new number into the text box.

Browser Settings

Java/Non-Java
If you are using Internet Explorer 7.0 or higher, or Mozilla Firefox, then Non Java should be selected. Check the radio button for Java to use Java for viewing live data. The choice depends upon the browser you will use. Java should only be selected if you are using Internet Explorer 5.0 or 6.0. You will need to have the Java Virtual Machine plug-in installed (available at www.java.com).

5.14 Software Upgrade

Whenever you connect to the WebAlert via an Internet connection, it will check to see if any software upgrades are available. If there are, then the Software Upgrade page link will appear. Note that this can only occur if the WebAlert is connected to the Internet, either through the modem or Ethernet.

If there is a newer version of software that you would like to load into your unit, then you can upgrade to the latest revision.

Click on the link “More Info on Software Upgrade” to see what features have been added.

Click on the link “Start Software Upgrade” in order to download the new version to the unit.

Note: Process monitoring is suspended during a software upgrade. If the unit being updated is a slave on a network of controllers, both the master unit and the slave being updated will have process monitoring suspended during the upgrade process. Depending upon the extent of the changes and Internet traffic, the upgrade can take anywhere from 15 minutes to 2 hours to complete.

If the WebAlert is not connected to the Internet, an upgrade may be accomplished using an upgrade file and USB flash drive:
Download the upgrade file from the Walchem web site. Certain upgrade files will only work to go from a few specific versions to another. Make sure that the upgrade file matches the software version you have now. The current WebAlert software version is displayed on the System Summary page.
Save the file to an USB flash drive. It must be the only executable file on the root directory of the flash drive.
Insert the USB flash drive into the USB host connector (see figure 5).
Connect to the WebAlert via USB or Ethernet and after the IP address type the command /cmd_lupsw.txt.
Click on the link for Software Upgrade, then the link to Start Software Upgrade.
The software upgrade will begin. When it is complete, after a few minutes, the WebAlert will reboot.
Reconnect via USB or Ethernet and check the software version number of the System Summary page to verify that the upgrade is complete.

5.15 Configuration File

If many of your process monitoring applications are nearly identical, you can save a lot of time in the set up by downloading a typical configuration file to your hard drive, and later uploading the configuration file to another process monitor.

Export UCF

In order to transfer the User Configuration File (UCF) from the WebAlert to your computer, click the Export UCF link. You will be presented with the standard Windows dialog box to download a file. Click the radio button to Save this file to Disk, then click OK. Select the location where you want the file to be saved, change the name of the file if desired, then click Save. The file is only around 14KB, so it should be transferred relatively quickly. Click Close to close the dialog box.

The exact sequence of events and wording within the dialog box will vary depending upon the operating system (Windows 95, 98, NT, 2000, XP etc.) on your PC.

Browse

In order to transfer a previously saved UCF from your computer to this WebAlert, first click the Browse button to locate the file on your computer. A “Choose File” dialog box will open. Click on the correct file, then click Open.

Import UCF

Once the file name is displayed in the Browse text box, click the Import UCF button to transfer the file to the WebAlert.

5.16 Notepad

The configuration Notepad gives you a place to make notes regarding any changes that you have made to the set points, to document calibrations, system upsets or anything else that you want to note. Simply type your message into the text box.

5.17 Access Codes

There are three levels of access code protection. If the *Master* password is used in the WebAlert Authentication page, then any set point can be changed. If the *Calibration Level* password is used in the Authentication page, then sensor calibrations will be allowed, but other changes will not. If the *Read Only* password is used the user will be able to look at any page, but will not be allowed to make any changes.

In order to change the access code for each level of access, type the present password into the text box, then type the new password in the text box below. Type the new password again in the lowest text box to verify that the new password has been correctly entered.

The default user name is "webalert" and the default passwords are "2001" for full access, "2002" for calibration only and "2003" for read only. These defaults can and should be changed to assure security.

Change User Log-in Name
You may also change the user name for logging into the WebAlert. Type the new user name into the text box.

Download Access Log
Click the link to View Log File. The Modem Access Log will tell you when the WebAlert was accessed. It will show you the date and time of access, the method of access, the user name used, the IP address of the computer used for access, and the level of access code used (or that the attempt failed).

A window will open to ask if you would like to open the file or save it to disc. Select the method you would like to use. The file is a basic text file with a .log extension that may be opened in any word processing program (Word, Notepad, etc.).”

5.18 Walchem Web Page

Click on this link to go directly to the Walchem web site, where you can find the latest instruction manuals, technical data sheets, email help, or to surf to another WebAlert.

5.19 Sub-Network

Once you have created a network of two or more WebAlert process monitors, purchased the Master Capability software for the master process monitor, defined the master unit as the master and slave units as slaves (see section 5.11) in the Communications page, and given each process monitor unique Ethernet IP addresses in the Communications page, the links under Sub-Network will be active.

To navigate between process monitors on the sub-network, start by logging onto the master process monitor. This may be via USB, Ethernet or modem. Once connected to the master, click on a link to the slave. The link will be given the custom name of the process monitor from the Startup page. The first time you connect to the slave in a given session, you will need to log on with that process monitor's user name and password. After that, you will be able to bounce from one process monitor to another without logging on again.

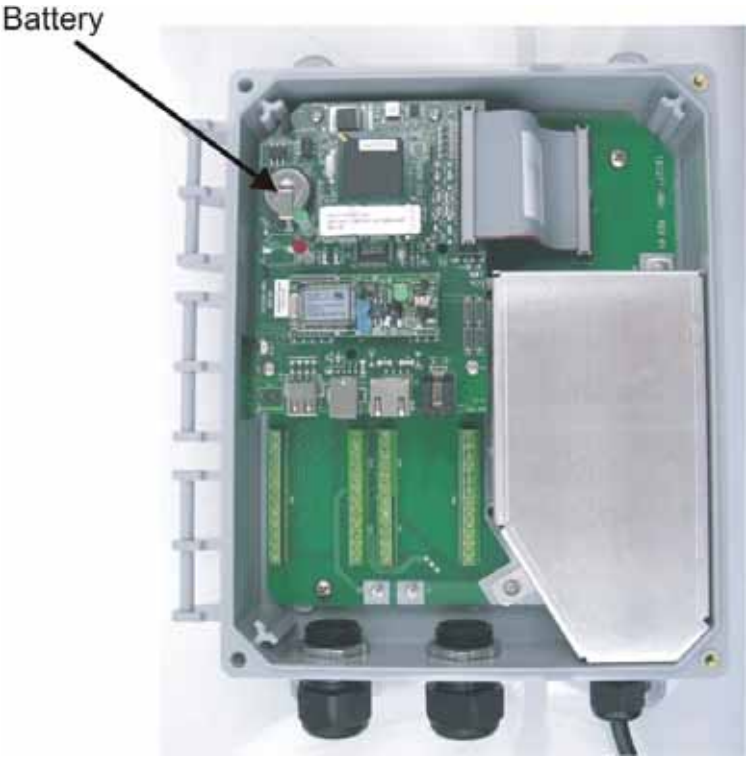
If the links available do not accurately match the process monitors on the network, go to the Communications page and click the "Detect Network" button. If the sub-network frame is still inaccurate, right click in the frame and click 'Refresh.' If still inaccurate, try rebooting the process monitor.

6.0 MAINTENANCE

The WebAlert process monitor requires very little routine maintenance. The electronic enclosure only needs to be wiped down with a damp cloth to keep it clean.

CAUTION! The WebAlert power supply cover is secured with Phillips (#1) screws, which require a tool to open. No user adjustments are inside. This panel should only be opened by trained maintenance personnel.

6.1 Replacing the Battery



Using a small flat screwdriver, gently lift the battery up and out of its clip.
Replace the battery with a part number Panasonic BR2032, + side facing UP.

The normal life of the battery is 10 years.

7.0 TROUBLESHOOTING

7.1 ERROR MESSAGES

"<Input Name> (AI_#) Input" High or High-High Alarm (one for each, use name defined)

This error message is caused by the 4-20 mA signal from a transmitter exceeding the user-programmed value for the high alarm limit.

Possible Causes	**Corrective Actions**
The process value being measured by the transmitter is out of specifications .	Determine the reason for the out of spec transmitter condition.
The high alarm limit for the process being measured is set too low.	Increase the high limit in the Other 4-20 mA Input Page.
There is a problem with the transmitter that needs to be addressed by the manufacturer of the transmitter.	

"<Input Name> (AI_#) Input" Low or Low-Low Alarm (one for each, use name defined)

This error message is caused by the 4-20 mA signal from a transmitter being lower than the user-programmed value for the low alarm limit.

Possible Causes	**Corrective Actions**
The process value being measured by the transmitter is out of specifications.	Determine the reason for the out of spec transmitter condition.
The low alarm limit for the process being measured is set too high.	Decrease the low limit in the Other 4-20 mA Input Page.
There is a problem with the transmitter that needs to be addressed by the manufacturer of the transmitter.	

<Input Name> (AI_#) Sensor Error

This error message is caused by a 4-20 mA input signal that is less than 3.9 mA or greater than 21 mA.

Possible Causes	**Corrective Actions**
Faulty transmitter.	Make sure that the transmitter is functioning by measuring the output using an ammeter. If the output directly from the transmitter is less than 4 mA, the transmitter is the problem.
Faulty wiring between transmitter and analog input.	Repeat the measurement of the transmitter output at the 4-20 mA input option board terminal strip. If this is less than 4 mA, then the wiring is faulty. Also make sure that the wires are attached to the correct terminals as defined in the 4-20 mA Input Page.
Faulty analog input.	Replace the Process Monitor board.

Generic Input Open/Closed Alarm (one for each used)

This error message appears if a switch connected to a digital input is putting out a signal that indicates an alarm condition. This could mean that the switch is either open or closed. The custom name of the input and the custom message will appear in the alarm message.

Possible Causes	**Corrective Actions**
Normal function of the switch	Determine the cause of the process problem.
Faulty switch or wiring.	Test the input by removing the wires to the switch, then jumping + to - repeatedly. If the unit is able to register the changes in state, then the switch or wiring is faulty.
Incorrect setting of "Alarm when switch is open/closed" menu.	Go to the Digital Input Page and verify that the "Alarm when switch is" menu is set for the proper selection. You can check the operation of the switch by measuring between the two wires with an ohmmeter.
Faulty digital input.	If the switch is functioning, and it is wired correctly, and the settings are correct, replace the Process Monitor board.

Digital Input High or High-High Rate

This error message appears if a Flow meter or Generic Counter digital input type receives contact closures at a rate faster than the limit programmed in the Rate High or High-High Alarm field.

Possible Causes	**Corrective Actions**
Incorrect setting of the Rate High Alarm.	Go to the Digital Input page and check the setting.
False contacts at a high rate.	Separate cable from AC voltage. Use shielded cable.

Digital Input Low or Low-Low Rate

This error message appears if a Flow meter or Generic Counter digital input type receives contact closures at a rate slower than the limit programmed in the Rate Low or Low-Low Alarm field.

Possible Causes	**Corrective Actions**
Incorrect setting of the Rate Low Alarm.	Go to the Digital Input page and check the setting.
Faulty switch or wiring.	Test the input by removing the wires to the switch, then jumping + to - repeatedly. If the unit is able to register the changes in state, then the switch or wiring is faulty.
Faulty digital input.	If the switch is functioning, and it is wired correctly, and the settings are correct, replace the Process Monitor board.

Digital Input Total Limit

This error message appears if a Flow meter or Generic Counter digital input type receives a total number of contact closures higher than the limit programmed in the Total Alarm Limit field.

Possible Causes	**Corrective Actions**
Normal operation, total has been reached	None
False contacts at a high rate.	Separate cable from AC voltage. Use shielded cable.

Modem Failure

This error message is caused by a failure of the process monitor to recognize that the modem circuit board is connected.

Possible Causes	**Corrective Actions**
Poor connection of the modem to the Process Monitor board.	Remove the modem board and inspect both mating connectors for corrosion or damage. Reinstall the modem board.
Faulty modem board.	Replace the modem board.

Ethernet Failure

This error message is caused by a failure of the process monitor to communicate with the Ethernet chip.

Possible Causes	**Corrective Actions**
Faulty Ethernet chip.	Replace the Process Monitor board.

Non Responding Slave

This error message is caused by a failure of a previously detected slave to respond to the master. The master will check on the slaves every 10 minutes.

Possible Causes	**Corrective Actions**
Slave powered off	Restore power to the slave
Slave disconnected from the network	Reconnect
Slave reprogrammed	Check IP address, subnet mask, gateway, and network mode.
Faulty Ethernet circuit in slave	Test with direct Ethernet connection to laptop.
Network problem	Have IT administrator evaluate network

8.0 SERVICE POLICY

The WebAlert Series process monitors have a 2-year warranty on electronic components and a 1-year warranty on mechanical parts.

We stock replacement parts for immediate exchange after we have isolated the cause of a problem.

Factory authorized repairs that are received via next-day-air will be returned within 24 hours. Normal turnaround time for returns is two weeks.

Out of warranty repairs are done on a flat fee basis.

Model Code

WA500 - | Wiring | Comms Hardware | Comms Software |

WIRING
H = Hardwired, cable glands
P = USA power cord w/cable glands

COMMUNICATIONS (USB & ETHERNET STANDARD)
N = No additional communications
M = Modem card
G = Cellular modem card (GPRS)

COMMUNICATIONS SOFTWARE
N = None
1 = Ethernet Networking Master Capability

FIVE BOYNTON ROAD
TEL: 508-429-1110

HOPPING BROOK PARK
FAX: 508-429-7433

HOLLISTON, MA 01746 USA
Web: www.walchem.com